

CLAIMS

What is claimed is:

1. A controller, in particular a drive controller, comprising:
a first functional block for at least one permanently installed controller function; and
a second functional block for at least one dynamically loadable controller function,
wherein the second functional block can be dynamically loaded or dynamically overwritten with a real-time function during the operation of the controller.
2. The controller of claim 1, wherein in the first functional block stores several real-time basic functions of the controller and the second functional block stores at least one real-time additional function of the controller, and wherein during the operation or during processing of the real-time basic function, the real-time additional function is dynamically loaded or dynamically overwritten or started or executed in the second functional block without interrupting the real-time basic function.
3. The controller of claim 1, and further comprising a bus link, wherein the real-time additional function is loaded via the bus link from a management automation system.

4. The controller of claim 1, wherein the real-time additional function is loaded via an Internet connection.
5. The controller of claim 1, and further comprising a device for runtime monitoring.
6. The controller of claim 5, wherein the runtime monitoring device determines a computing time required by the real-time additional function, and wherein the real-time additional function is terminated if the required computing time exceeds a predefined reference time.
7. The controller of claim 1, and further comprising a device for monitoring memory location access.
8. The controller of claim 7, wherein the device for monitoring memory location access monitors memory addresses accessed by the real-time additional function, and wherein the real-time additional function is terminated if these memory addresses do not correspond to predefined reference memory addresses that are reserved for the real-time additional functions.

9. The controller of claim 7, wherein the device for monitoring memory location access administers a memory region with access rights for both the real-time basic functions and the real-time additional function, and wherein copies of variables of the real-time basic functions are stored at this memory region.
10. A method for operating a controller, in particular a drive controller, comprising the steps of:
executing at least one permanently installed controller function for controlling a system, in particular a drive, and
dynamically loading or dynamically overwriting additional real-time functions during operation of the controller and execution of the permanently installed controller function.
11. The method of claim 10, wherein for controlling the drive several real-time basic functions of the controller are executed, and wherein during the operation or execution of the real-time basic function at least one real-time additional function is dynamically loaded or dynamically overwritten or started or processed without interrupting the real-time basic function.

12. The method of claim 10, wherein a computing time required by the real-time additional function is determined, and wherein the real-time additional function is terminated if the required computing time exceeds a predefined reference time.
13. The method of claim 10, wherein the memory addresses accessed by the real-time additional function are monitored and wherein the real-time additional function is terminated if these memory addresses do not correspond to predefined reference memory addresses reserved for real-time additional functions.